Proposed Grant Awards
FY2006 Water Quality Improvement Fund (WQIF)
CHESAPEAKE BAY WATERSHED

Introduction

These proposed grant awards are intended to reduce pollution through partnerships with local governments, community groups and others. The grants focus on implementing Virginia's Chesapeake Bay Tributary Strategies as well as improving waters throughout Virginia that do not meet water quality standards (TMDL waters). Grants are awarded for projects within the Chesapeake Bay watershed as well as watersheds in Virginia that drain outside the Chesapeake Bay watershed, the "Southern Rivers."

These awards support two Water Quality Improvement Fund programs: Cooperative Nonpoint Source Pollution Programs with Local Governments and Strategic Nonpoint Source Water Quality Initiatives. The Water Quality Improvement Act requires that a list of projects proposed for funding be made available for public review and comment for at least 30 days prior to executing final grant agreements. Comments or questions should be submitted to Rick Hill at rick.hill@dcr.virginia.gov.

Cooperative Nonpoint Source Programs With Localities

- **Albemarle County.** *Albemarle County Riparian Buffer Restoration Initiative.* WQIF funding will match local expenditures for establishment and restoration of forested riparian buffer on nonagricultural lands and will double the amount of riparian buffers constructed. The County will develop a program for accepting the cash equivalent of riparian buffer restoration so that in cases where applications for development proposals create authorized impacts to buffers applicants will be able to provide that cash equivalent as mitigation. Installation of signage will be required to identify sites established as a permanent riparian buffer and in order to foster future protection of the restored areas. An estimated 471 acres of forested riparian buffer will be established. The riparian buffers will be targeted to TMDL impaired streams. The program support the Moores Creek TMDL Implementation Plan, and will contribute toward addressing TMDL impairments to the North Fork Rivanna River and the Rivanna River. $159,000 WQIF / $161,120 Match.

- **Caroline County.** *Dawn Decentralized Wastewater Treatment / Septic Connection.* At least 152 individual septic systems will be replaced with a County owned and operated alternative wastewater system. The pumps at each individual structure being connected will transmit wastewater into a low-pressure collection system and then to a treatment facility. The final disposal of treated water is through a dispersal field designed for nutrient removal to less than 5 mg/l at the disposal field and 0 mg/l at the adjoining property line. This project will address over 12% of the York River Tributary Strategy septic connection goal. The project will benefit the fecal TMDL impairment to Reedy Creek. Estimated annual nitrogen reduced is 2700 pounds. $200,000 WQIF / $1,436,000 Match.

- **Chesterfield County - Office of Water Quality**. *Chesterfield County LID Project.* The Chesterfield County development community (residential, commercial and industrial) will be introduced to the concepts of low impact development as a nonpoint source pollution (NPS) control practice. At least two on-the-ground LID project sites will be implemented for each of two, targeted development sectors. The four LID sites will be targeted to the Upper Swift Creek watershed. Grant funds will be used to offset the added engineering costs for the design of LID on the new sites. An analysis of the additional cost versus on site savings will be documented during implementation. Two development sector symposiums will be offered addressing LID implementation issues. LID will be considered as a component of the Upper Swift Creek Plan (a section of the Chesterfield County Comprehensive Plan) as well as incentives for future developers to use LID. $169,000 WQIF / $169,000 Match.

- **City of Harrisonburg.** *Enhancing City Programs for Stream Health: An Action Plan for the Blacks Run / Cooks Creek Watersheds.* The street sweeper fleet will be doubled and 10 new pet waste collection stations will be added in heavily trafficked public areas in order to address TMDL loads in Blacks Run and Cooks Creek watersheds. An additional 576,000 lbs of sediment will be reduced and ~ 30,000 bags of pet waste will be removed annually. This project directly supports the Cooks Creek and Blacks Run Draft TMDL Implementation Plans. $144,500 WQIF / $148,590 Match.

- **City of Manassas.** *Winters Branch Stormwater Management Enhancement.* The City will make enhancements to the Winters Branch regional stormwater management facility including construction of a sediment forebay to collect trash and suspended solids, wetland plantings around the stormwater management (SWM) pond, and a debris boom to collect floatable material. The wetland plantings will enhance nutrient removal by 2% for the runoff from 656 acres treated by the SWM facility. Estimated annual NPS reductions associated with this project is 450 pounds of nitrogen and 39 pounds of phosphorus. $134,000 WQIF / $134,000 Match.

- **City of Staunton.** *Lewis Creek Watershed Stormwater Nutrient & Sediment Removal Demonstration Project.* Staunton's stormwater management program will be evaluated and amendments will be made to the SWM ordinance and the utility fee structure. Low impact development principles will be addressed in the SWM program revisions. Three LID demonstration projects will be constructed to treat runoff from three parking lots. These LID sites will be used to educate residential and commercial property owners about bioretention and biofiltration BMPs. This project will help to address benthic TMDL impairments to Middle River and Lewis Creek. $76,500 WQIF / $109,322 Match.

- **City of Virginia Beach.** *Water Quality Coordination Capacity Building, Program Enhancement Project, & Community Conservation Partnership Initiative Program.* NPS pollution reduction activities include installation of solar powered lake circulators / aerators, vegetated riparian buffer restoration, expansion of the clean marina program, wet pond retrofits, and updates to various City water quality ordinances for improved pollution prevention. These implementation efforts will benefit the benthic TMDL impairment to the Elizabeth River. In addition, ten residential neighborhoods in

Virginia Beach will be targeted for a pilot cost share program to implement urban BMPs prescribed in the Virginia Beach input deck of the Tributary Strategies. Cost share funds will be awarded for up to 50% of the total eligible costs including engineering designs, consultant fees, construction materials, and labor. This aspect of the project supports the Lynnhaven River, Broad and Linkhorn Bay Draft TMDL Implementation Plan. Estimated annual NPS reductions include at least 11,745 pounds of nitrogen and 1545 pounds of phosphorus. $175,000 WQIF / $175,000 Match.

- **James City County.** *Community Conservation Partnership Incentive Program.* Thirty residential neighborhoods in James City County will be targeted for a pilot cost share program to implement urban BMPs prescribed in the James City County Input Deck for the James River & York River Tributary Strategies. A protocol will be developed for evaluating urban BMP cost effectiveness. The Colonial Soil & Water Conservation District will be a primary partner in the project and will be responsible for administering the cost share assistance applications and incentive payments to homeowner's associations. Cost share funds will be awarded for up to 50% of the total eligible costs including engineering designs, consultant fees, construction materials, and labor. $150,000 WQIF / $150,000 Match.

- **Prince William County.** *Restoration of Stream Water Quality in Priority Watersheds in Prince William County.* Stream restoration will be constructed on ~ 500 linear feet of stream and BMP retrofits will be installed to treat runoff from at least 500 acres of drainage. Sites will be selected based on the County's Stream Protection Strategy with emphasis on sites subject to TMDL regulations associated with stream impairments. Selected BMP controls will be those contained in the Input Deck of the Shenandoah-Potomac Tributary Strategy. Estimated annual NPS reductions are 2,560 lbs of nitrogen and 160 lbs of phosphorus. $100,000 WQIF / $100,000 Match.

- **Rappahannock County.** *Implementing the Strategy: The Rappahannock River Starts Here.* A new local stormwater management ordinance will be developed and integrated with existing and modified zoning and subdivision ordinances. The SWM ordinance will affect a minimum of 275 acres currently or proposed to be zoned as commercial / industrial. The county erosion and sediment control program will be enhanced to strengthen enforcement. Homeowners will be offered 50% matching funds for septic system cleanout and repair, and the public will be educated about septic system maintenance. Three areas with fecal coliform TMDL impairments will be targeted for the septic cleanout and repair. Estimates of NPS pollution reductions include 10,650 pounds of nitrogen, 1600 pounds of phosphorus, and 220 tons of sediment over a 5 year period. $90,000 WQIF / $189,250 Match.

- **Stafford County.** *Implementation of the Stafford County Rappahannock Watershed Plan*. Actions identified in the *Stafford County, Virginia Rappahannock Tributaries Watershed Planning Study* will be implemented through this project. Environmental benefits will be achieved through actions including a acre permeable pavers demonstration project at Stafford County Administrative Center, riparian buffer restorations / streambank stabilization projects, tracking of illicit discharge sources, GIS prioritization and restoration project, establishing an RPA signage program

including enabling ordinance, three new Livable Neighborhood Water Stewardship teams formed, three adopt-a-stream teams launched, and creation of a series of public service cable and radio spots that engage homeowners in actions they can do to protect their streams. $ 70,000 WQIF / $76,644 Match.

- **Town of Orange.** *Comprehensive Watershed Management Program for the Town of Orange.* This long term project aims to prioritize the Town watersheds, establish a stormwater program with a dedicated funding source, develop a conservation-based master plan, create conservation based zoning and subdivision codes, inventory BMPs and illicit discharges, and construct the Miller Creek watershed stormwater facilities. Implementation activities in the first phase include reconstruction of the floodplain and stream banks in the immediate area below Spicer's Mill Road. Estimated NPS reductions include 23,817 pounds of nitrogen, 4620 pounds phosphorus, and 4366 pounds of sediment. $142,000 WQIF / $142,000 Match.

Strategic Nonpoint Source Water Quality Initiatives

- **Chesapeake Bay Foundation.** *Sarah Creek Watershed Nonpoint Source Water Quality Partnership.* A comprehensive watershed restoration and outreach project designed to education homeowners and landowners on techniques to reduce NPS pollution in Sarah Creek watershed will be implemented in partnership with Gloucester County, Tidewater SWCD, and the USDA NRCS. Erosion, nutrient, and fecal matter inputs to the impaired Sarah Creek will be reduced with cost share provided for the installation of 10 riparian buffer areas and for pumping of 175 septic systems. Using Bay model BMP efficiencies this project will remove 231 pounds of nitrogen and 38 pounds of phosphorus. $52,000 WQIF / $53,131 Match.

- **City of Lexington**. *Water Quality Improvements in Woods Creek Watershed.* The City of Lexington, in partnership with Rockbridge County and Washington & Lee University, will install six (6) bioretention and biofiltration systems within the Woods Creek watershed. Two Filterra SWM bioretention filtration systems will be installed within the City at the Old Lexington Train Station and on the campus of Washington & Lee University. A third bioretention and biofiltration bed will be installed in the City at Woods Creek Park. In Rockbridge County, rain gardens will be constructed on private property in densely populated, suburban residential areas with minimal SWM facilities. Selected BMPs are in the James River Tributary Strategy Input Deck. Estimated annual NPS load reductions include 763 lbs sediment, 2.4 lbs phosphorus, and 22.4 lbs nitrogen. $36,000 WQIF / $36,000 Match.

- **Culpeper County**. *Culpeper County Stormwater Management Ordinance & LID Demonstration Project.* NPS pollution will be reduced throughout the county following development and implementation of a countywide stormwater management ordinance. The ordinance will include a section on low impact development to encourage its use as an alternative to traditional development. An LID demonstration project will be constructed in conjunction with a private developer to serve as an example for planners, engineers, and developers in the area. Estimated average

annual nutrient reductions of 2,108 pounds will be achieved in association with the ordinance as well as additional reductions from the demonstration project. $42,000 WQIF / $43,284 Match.

- **James River Association.** *Extreme Stream Makeover.* Citizens in the City of Colonial Heights will restore part of the Oldtown Creek watershed during a six-day event called the "Extreme Stream Makeover". This project aims to reduce high rates of erosion and streambank undercutting associated with severe flooding to Oldtown Creek, a tributary to the Appomattox River. South of Lakeview Elementary School volunteers will remove existing trash and debris, officially adopt the stream through the Adopt-A-Stream program, and then restore one quarter a mile of stream buffer on both banks of the Creek. A series of stormwater retrofits will be installed in the nearby Woodlawn neighborhood including 100 rain barrels and 10 rain gardens. Local organizations, businesses and schools will participate in the project, with a goal for approximately 100 volunteers each day. $60,000 WQIF / $60,000 Match.

- **Middle Peninsula PDC.** *Middle Peninsula Regional On-Site Wastewater Treatment and Disposal Funding Program.* Financial assistance will be offered in combination with loan funds for the repair of failing septic systems within the Middle Peninsula. This program offers an affordable repair solution to low- to moderate- income clients. Many repairs require secondary treatment and have an average $12,000 in repair costs. WQIF funding will be used for systems that remove more nitrogen than conventional systems. This project will contribute to addressing fecal coliform TMDL impairments to several streams in the Middle Peninsula. Between eight and fifteen systems will be repaired or replaced. $100,000 WQIF / $100,000 Match.

- **Poquoson City Schools.** *Wetlands Restoration and Learning Laboratory.* WQIF funding will be used to restore 3 acres of wetlands. Poquoson will remove solid waste from the landfill adjacent to the school site. WQIF funding will contribute toward the purchase and planting of 30,000 hydric wetland plants. The restored wetlands will serve as a learning laboratory for students, and set an example of responsible development for the community. In addition to the wetlands, other LID BMPs will be utilized on the site to manage stormwater. Water from the entry road and parking lots will be directed through surface flow and planted swales to a series of detention areas. Paved walks and plazas will drain into a rain garden that serves as the primary landscaping in front of the school. Planted swales will convey water around to school to constructed wetlands before releasing it to an existing wetland. $60,000 WQIF / $980,440 Match

- **Shenandoah Valley SWCD.** *Common Sense Solutions to Water Pollution.* Residents and business owners will be engaged to address urban water quality issues associated with TMDL benthic and bacteria impairments in the Blacks Run and Cooks Creek watersheds. Following a publicized essay contest, the SWCD will select two houses and two businesses for a "makeover" to use as demonstration sites. Each makeover will include (as is relevant): septic tank pump-out, a soil test, rain barrel(s), and a rain garden and/or buffer planting. Four contest runners-up will also receive a rain garden or bioretention filter constructed on their property. Free soil tests will be provided for

up to 100 households and businesses. Rain barrels will be provided for the first fifty interested participants. Estimated annual NPS reductions include 3994 lbs sediment, 3 lbs phosphorus, and 542 lbs nitrogen. This project directly supports the Cooks Creek & Blacks Run Draft TMDL Implementation Plan. $58,000 WQIF / $71,858 Match.

- **Valley Conservation Council.** *Shenandoah Riparian Protection Program.* WQIF funding will support acquisition of easements on approximately 66 riparian acres and permanent protection of between 5 and 15 miles of riparian buffer. The project will focus on Augusta County and builds on previous success with riparian easements through the Headwaters Riparian Partnership. The riparian funds will be used to leverage multiple other funding sources for whole farm easement purchases based on soils, working family farms and forests, or lands of other significance. The riparian buffers will contribute toward reducing TMDL stream impairments throughout Augusta County and help meet Virginia's Tributary Strategy goals. $100,000 WQIA / $300,000 Match.

- **Virginia Wesleyan College.** *Green Roof Demonstration Project - Smithdeal or Gum Residence Halls.* An existing residence hall at Virginia Wesleyan College, either Smithdeal or Gum, will be retrofitted with an environmentally sensitive roof expected to retain 70% of the annual rainfall. A major goal of the green roof is to manipulate the nutrient content of the soil blend to reduce phosphorus and nitrogen in the roof runoff. The soil substrates will be varied within separate drainage sections of the roof and monitored to determine which soil formulation is most effective at achieving nutrient reduction goals while supporting vegetation growth. The project will be incorporated into the college curriculum and will further the campus commitment to becoming a demonstration site for LID techniques. Based on the success of this green roof, the College will consider incorporating green roofs into future buildings and roof retrofits. As necessary, the site will be available for area professionals to gain a better understanding of green roof technology. $50,000 WQIF / $50,000 Match.

- **Western Virginia Land Trust.** *Upper James River Riparian Protection Partnership.* Lands not eligible for Conservation Reserve Enhancement Program (CREP) funding will be targeted for a riparian easement purchase program. Over 66 acres of riparian buffers will be permanently preserved. The riparian buffer estimate equals 11 miles of stream bank with 50-foot buffers, or almost 16 miles of stream bank with the minimum 35-foot buffer that will be accepted in this program. Landowners will be paid a per acre incentive for the permanent riparian easements that require forested buffers, exclude livestock, and prohibit cultivation or other soil disturbing activities. Buffer protection will be targeted to TMDL impaired streams in portions of Craig, Bedford, Botetourt, and Roanoke Counties that drain to the James River watershed. The WVLT will works in partnership with the Mountain Castle and Peaks of Otter SWCDs, who will co-hold the riparian easements with WVLT and help to promote the program. $100,000 WQIA / $100,000 Match.